

## KNOWLEDGE OF LEARNING DISABILITY AMONG PRE- AND IN-SERVICE TEACHERS IN INDIA

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*The purpose of this study was to determine the knowledge level of learning disabilities (LD) among teachers in India. A survey was distributed among 144 teachers in two regular high schools, 38 teachers in two special schools, and 165 pre-service teachers in a teacher education college in a metropolitan city in a southern state in India. One-way analysis of variance (ANOVA) showed that the knowledge level of learning disabilities among teachers working in regular schools was statistically different. Among the three groups, the pre-service teacher group scored the lowest ( $M = 60.76$ ,  $SD = 13.36$ ,  $N = 165$ ) which was below the mean score for the entire group ( $M = 66.32$ ,  $SD = 13.37$ ,  $N = 347$ ). Teaching experience and familiarity with persons with LD did not affect the knowledge level of the three groups of participants. The study makes recommendations on how to improve the knowledge level of learning disabilities among pre-service teachers in India, and the need to assess knowledge of LD among physicians, parents, paraprofessionals, educational administrators and other stake holders.*

The number of people with disabilities in India is substantial and it is likely to grow (World Bank, 2007). According to the 2001 Census of India, 21.9 million people were reported to have a disability. Of these, persons with a visual disability (48.6%) were the largest group; those with a hearing impairment (5.8%) were the smallest group (Rao, 2008). Other disabling conditions, e.g., speech (7.49%), mobility (27.87%), and intellectual disabilities (10.33%) were also prevalent. It should be noted that the Indian educational system provides formal education (mostly in exclusive settings) to individuals with visible disabilities. There is little attention, however, to invisible disabilities, e.g., learning disability (Sakhuja, 2004).

Research in the area of learning disability (LD) in India began only recently (Ramaa, 2000). Students have experienced academic problems associated with LD for a long time, but those problems were ignored in the crowded classrooms (Karanth, 1998). The study of learning disability is gradually gaining momentum as more and more students are experiencing problems in academic and non-academic areas. Current literature indicates that 10-14% of the 416 million children in India have LD (Krishnan, 2007; Krishnakumar, 1999; Mehta, 2003) making it the most widespread disability (Suresh & Sebastian, 2003; Tandon, 2007). It is estimated that India has five students with LD in every average-sized class (Thomas, Bhanutej, & John, 2003). Dyslexia is the most common and most carefully studied of the SpLDs [specific learning disabilities], affecting 80% of all those identified as learning disabled (Karande, Sawant, Kulkarni, Galvankar, & Sholapurwala, 2005, p. 96). According to a study conducted in South India, the incidence of dyscalculia was reported to encompass 6% of all school-aged children (Ramaa & Gowramma, 2002). Along with LD, attention deficit hyperactivity disorder (ADHD) is also found to be prevalent (Crawford, 2007). Compounding the issue of prevalence is limited awareness of LD among parents, teachers, and educational administrators, and the lack of teacher training in this area.

Assessing the knowledge level of LD among pre- and in-service teachers is of critical importance. Paul (2000) states that one of the barriers encountered by students with disabilities is teachers' lack of knowledge about the disability and the types of services and accommodations they require. Research

has also shown that inadequate knowledge about disabilities leads to negative attitudes toward persons with disabilities (Saravanabhavan & Saravanabhavan, 2001).

In India, the first National Policy on Education was passed in 1986, and it included the goal of equal educational opportunity. The policy stated that educational facilities should be improved and expanded to include children with disabilities in regular schools. The policy also addressed the need for vocational education as well as teacher training programs to include methodologies for teaching children with special needs (Ministry of Human Resource Development [MHRD], 1986). The National Policy on Education was followed by the Plan of Action in 1992 which emphasized that children with disabilities should be educated in regular schools. The Plan of Action required that even those children who were initially admitted into special schools be transferred to general schools once they acquired minimal functional living skills.

A major shift took place in 1992 with the adoption of the Integrated Education for Disabled Children scheme. The goal of the scheme was to provide educational opportunities for children with disabilities in general schools, and to facilitate their retention in the school system. It provided facilities to students with disabilities including expenses for books, stationery, uniforms, transportation, reader and escort allowances, hostel accommodation and the cost of equipment. The scheme also supported the appointment of special teachers, the provision for resource rooms, and the removal of architectural barriers in schools. The special education component was added to the teacher-training program provided by district institutes of education and training (MHRD, 2003).

Lack of trained personnel has consistently been one of the many obstacles to the provision of services to children with disabilities in India. The Project Integrated Education for the Disabled (PIED) was passed in 1987 to reinforce the concept of inclusive education, and to train teachers to better prepare them for teaching children with special needs. The District Primary Education Program was launched in 1994. Under the auspices of the program, 18,000 regular education teachers were trained to teach children with disabilities. The Rehabilitation Council of India Act was passed in 1992, and it prescribed minimum qualifications for special educators (MHRD, 2002).

The landmark legislation governing the education of individuals with disabilities in India was the Persons with Disabilities Act passed in 1995 (Ministry of Law, Justice & Company Affairs, 1996). The Act mandated free education to persons with disabilities up to the age of 18 years, reservation of 3% of vacancies in the public sector for individuals with disabilities, and accessibility to buildings, transportation, and other public services. The Act prohibited discrimination on the grounds of disability in every sphere (Rao, 2008). The next significant legislation was the National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act passed in 1999; it sought to protect and promote the rights of those within the disability sub-population who are more marginalized than others. Though the National Trust Act of 1999 did not directly deal with education of children with special needs, one of its concerns was to promote programs that foster inclusion and independence by creating barrier-free environments, and to develop the functional skills of individuals with special needs (Ministry of Social Justice & Empowerment, 2006). The Sarva Shiksha Abhiyan (SSA) which means *Education for All* was launched in 2000, and it mandated equal education for children with disabilities irrespective of the kind or severity of disability. Some of the goals of SSA are early detection and identification, functional and formal assessment, educational placement, teacher and parent training, and strengthening of special schools (Rao, 2008). The 86<sup>th</sup> Amendment of the Indian Constitution, passed in 2002, mandated free and compulsory full-time education as a fundamental right of all children between 6 and 14 years of age including children with disabilities (Madhavan & Manghnani, 2005). With all these directives laid out by the Indian Government, it is evident that the education of children with disabilities is an important priority.

The definition of LD used in India is borrowed from Western literature, as are the practices of assessment. Karande, Mehta, and Kulkarni (2007), in their study on parental knowledge of specific learning disabilities in India, used the definition of Shapiro and Gallico (1993) that LD is a generic term that refers to a heterogeneous group of neurobehavioral disorders characterized by significant unexpected, specific, and persistent difficulties in the acquisition and use of efficient reading, writing, or mathematical abilities despite traditional instruction, intact senses, average intelligence, adequate motivation, and adequate socio-cultural opportunity. Many schools in India use the definition recommended by the National Joint Committee on Learning Disabilities (Hammill, Leigh, McNutt, & Larsen, 1981):

*Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual, presumed to be due to central nervous dysfunction, and may occur across a life span. Problems in self-regulatory behaviors, social perception and social interaction may exist with learning disabilities but do not by themselves constitute a disability. Although learning disabilities may occur concomitantly with other handicapping conditions (for example, sensory impairment, mental retardation, serious emotional disturbance) or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences. (p.336)*

A set of criteria is used by Indian diagnosticians when identifying individuals with LD. Learning difficulties caused by serious emotional problems, serious brain damage, sensory impairments, and mental retardation are not termed LD; in order to be labeled as learning disabled, the individual should be eight years of age or older, exhibit serious academic problems, and be in need of extra help to succeed academically (Bindu, 1996; Gowramma, 1998).

With large numbers of students identified with LD in schools across India, it is only appropriate to determine if teachers are adequately prepared to make learning and performance effective and efficient for this special population of students. Teachers need to have adequate knowledge of the cognitive, linguistic, neuropsychological, behavioral, and social characteristics associated with LD, so that they are able to design instructional models that work for these students. Knowledge of LD among teachers is also needed for another reason, in order for professionals to avoid stereotypical descriptions of individuals with LD. Because the success of inclusive classrooms is related to teachers' knowledge of the unique needs of their students (Campbell, Gilmore, & Cuskelly, 2003), this study focused on determining the knowledge level of LD among in-service teachers working in regular high schools and in special schools, and pre-service teachers pursuing their education degree in a teacher education college. The high schools, special schools, and the teacher education college were located in a metropolitan city in one of the southern states in India.

## **Method**

### *Participants*

The participants in the study were 144 teachers from two regular high schools, 38 teachers from two special schools, and 165 pre-service teachers, who were in their final semester of training, in a teacher education college. The regular and the special schools and the teacher education college were located within a radius of 15 miles from one another in a metropolitan city in the State of Tamilnadu in India. It is important to note that all these institutions, except the special schools, were exclusively for women (not co-educational). Hence, almost all of 347 survey participants were female. Educational qualifications of the participants ranged from an undergraduate degree (B.A. or B.S.) to a masters degree in philosophy (M.Phil.). A plurality of in-service teachers in regular and special schools, reported having one to five years of teaching experience; among pre-service teachers, 6% reported having the same amount of teaching experience. The remaining 94% of pre-service teachers did not have teaching experience. The primary language of the study participants was the same, and they were also proficient in English. Table 1 (next page) presents the distribution of pre- and in-service teachers according to employment type, educational qualifications, and teaching experience.

### *Instrument*

The authors developed a 25- item survey, in English, calling for responses on a Likert-type scale ranging from *strongly agree* to *strongly disagree*. The items primarily assessed basic understanding of the characteristics of individuals with LD, types of LD, and assessment of LD based on current literature. In addition to the 25 items, there were two open-ended questions to determine the participants' perception of the term *learning disability*. The questions were intended to ascertain if the term learning disability was appropriate in the Indian cultural context or if an alternative term was needed. The survey was accompanied by a demographic questionnaire on the educational qualifications and work experience of the survey participants. There was also a question to find out if the participants were familiar with persons with a learning disability outside their workplace. A pilot survey was conducted with a sample of 25 regular education teachers, 10 special education teachers and 28 pre-service teachers who were not part of the sample. Items on the instrument were modified based on feedback from the pilot study.

**Table 1**  
**Distribution of Teachers according to Employment Type, Educational Qualifications, and Teaching Experience**

Variable	Number	Percent
Type of employment		
Teachers in regular schools	144	41.5
Teachers in special schools	38	11
Pre-service teachers	165	47.5
Qualifications of teachers in regular schools		
B.Ed.	38	26
M.Ed.	38	26
B.A. / B.S.	28	19
M.A. / M.S.	30	21
Unreported	10	7
Qualifications of teachers in special schools		
B.Ed.	3	8
M.Ed.	7	18
B.A. / B.S.	15	39
M.A. / M.S.	11	29
M.Phil.	1	3
Unreported	1	3
Qualifications of Pre-service Teachers		
B.A. / B.S.	144	87
M.A. / M.S.	21	13
Years of Teaching Experience		
Teachers in regular schools		
Below 5 years	64	44
Between 5 & 10 years	45	31
Between 11 & 15 years	22	15
Between 16 & 20 years	13	9
Teachers in special schools		
Below 5 years	27	71
Between 5 & 10 years	8	21
Between 11 & 15 years	2	5
Between 16 & 20 years	1	3
Pre-service teachers		
Below 5 years	10	6
No teaching experience	155	94

### *Procedure*

One of the authors went online and took names and telephone numbers of a few high schools, special schools and teacher training institutions located in the metropolitan city for data collection; the author requested principals of six high schools, three special schools, and two teacher training institutions to permit their teaching faculty complete the survey and the demographic questionnaire. Principals of two regular schools, two special schools, and one teacher education college agreed to have their faculty/students participate in the study. The author explained the purpose of the survey to the pre- and in-service teachers who participated in the study. The participants were assured of the anonymity of their responses. Hence, no information leading to the personal identity of the participant was collected. Each survey carried a specific number to indicate the participant's group (i.e., teachers working in regular schools, teachers working in special schools, or pre-service teachers). A coordinator at each site was responsible for distributing and collecting the completed surveys.

### *Findings*

The survey with 25 items had a possible total score of 25 to 100. The SPSS Statistics 17.0 software was used to perform the one-way analysis of variance. The one-way analysis of variance (ANOVA) was used to determine if there was a statistically significant difference in the knowledge levels of learning disability among teachers working in regular schools, teachers working in special schools, and pre-service teachers. Results showed that the knowledge level of teachers working in regular schools

was statistically different,  $F(2, 344) = 32.76, p < .05$ . The average scores of 144 teachers working in regular schools, 38 teachers in special schools, and 165 pre-service teachers were 71.87 (11.75), 69.45 (8.94), and 60.76 (13.36), respectively. Among the three groups, the pre-service teacher group scored the lowest ( $M = 60.76, SD = 13.36, N = 165$ ) which was below the mean score for the entire group, ( $M = 66.32, SD = 13.37, N = 347$ ). The effect of familiarity with persons with LD on the knowledge level of the three groups of participants was non-significant at 10% significance level,  $F(60, 286) = 1.105, p = .292$ . Likewise, the effect of teaching experience on the knowledge level of the three groups of participants was non-significant at 10% significance level,  $F(48, 89) = .835, p = .751$ . Seventy-five percent of participants ( $n = 260$ ) from all the three groups supported the use of the term *learning disability* which seemed to imply that the term was appropriate to the Indian cultural context.

### Discussion, Conclusion and Implication

With SSA emphasizing inclusive education, it is encouraging to note that teachers working in regular schools and those working in special schools scored above average. Teachers working in regular schools who scored the highest may have acquired their knowledge from the training workshops that they attend at regular intervals. It is common practice in India to invite experts to schools and have them address their faculty on special topics. However, the difference in the knowledge level between teachers working in regular schools and teachers working in special schools needs further examination. It is natural to expect teachers in special schools to score higher than teachers in regular schools. However, this study showed different results. It is to be noted that only 26% ( $n = 10$ ) of teachers in special schools had an under-graduate or graduate degree in education. Lack of the education component in the educational qualifications of teachers in special schools may have been one of the reasons for their low scores. Pre-service teachers scored below average and this may be accounted by the fact that the present curriculum in teacher education programs in India does not include a specific course on the curriculum and instruction of children with special needs. The results of this study reinforce what Rajakumar, Kumar, Uppal, and Devikar (2005) claim that pre-service teacher preparation in India does not address basic pedagogic skills. Therefore, teachers are unable to develop appropriate teaching strategies since they lack preparation in various instructional models and differentiated instruction (Tomlinson, 2003).

The study has limitations that should be considered before generalizing its findings. The sample of 144 teachers working in regular schools, 38 teachers working in special schools, and 165 pre-service teachers in a teacher education college was derived from only a single state in India. The sample was voluntary, not randomized, coming from only those schools that permitted collection of data. Future researchers may consider increasing the sample size of special education teachers.

It is necessary that future research focuses on assessing knowledge of LD among parents, paraprofessionals and school administrators. In order for students with learning disabilities to succeed academically, all stakeholders involved in the education of this population of students should be knowledgeable of the characteristics of individuals with learning disabilities, diagnostic measures, accommodative strategies, differentiated instruction and grading system. Their knowledge will help them develop and implement plans that will enhance the quality of life for those with learning disabilities. Physicians' knowledge level of LD is critical in India because a physician's note, today, exempts a student with a learning disability from taking a second language and an advanced algebra class. When knowledge of LD increases among professionals, teacher education colleges might be pressured to look at adding special education competencies into their curriculum. Additionally, professional development activities in schools will focus on the characteristics and needs of students with LD, and school administrators will be forced to apply for additional funding to conduct training workshops for pre- and in-service teachers, and to have lab schools set up.

Review of literature indicates that research in the area of LD in India is relatively new, and results of this study also point to limited knowledge of LD among teachers. Hence, it is critical that more training be provided to teachers, so that individuals with LD will be successful at home, school, and work. The time is just right to look at increasing the knowledge level of LD among teachers in India because the SSA program is aggressively involved in implementing successful inclusive classrooms. The cornerstone of successful inclusion is a trained teacher who is prepared to handle the cognitive, social and emotional challenges presented by children with special needs.

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